

**WHAT IS CLAIMED IS:**

1. A variable stride exercise apparatus, comprising:
  - a frame;
  - 5 a crank system coupled to the frame;
  - a pivotal linkage assembly coupled to the crank system;
  - a variable stride system coupled to the pivotal linkage assembly, wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;
  - 10 wherein the apparatus has a maximum stride length that is at least about 40% of an overall length of the apparatus;
  - wherein the apparatus is configured such that a foot of the user can travel in a substantially closed path during use of the apparatus; and
  - wherein the apparatus is configured such that at least a portion of the apparatus
  - 15 remains substantially stationary during use.
2. The apparatus of claim 1, wherein the substantially closed path comprises a substantially elliptical path.
- 20 3. The apparatus of claim 1, wherein the substantially closed path comprises an orbital path.
4. The apparatus of claim 1, wherein the apparatus is configured such that the foot of the user can also travel in a curvilinear path during use of the apparatus.
- 25 5. The apparatus of claim 1, wherein the pivotal linkage assembly comprises a foot member, and wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.
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6. The apparatus of claim 1, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
- 5 7. The apparatus of claim 1, further comprising a movable member coupled to the pivotal linkage assembly.
8. The apparatus of claim 1, further comprising a movable member coupled to the crank system.
- 10 9. The apparatus of claim 1, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a reciprocating path.
10. The apparatus of claim 1, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a closed path.
- 15 11. The apparatus of claim 1, further comprising a movable member, wherein the movable member is coupled to the pivotal linkage assembly and the crank system.
- 20 12. The apparatus of claim 1, wherein the pivotal linkage assembly is coupled to the crank system through the variable stride system.
13. The apparatus of claim 1, further comprising a movable member, wherein the pivotal linkage assembly is coupled to the movable member through the variable stride system.
- 25 14. The apparatus of claim 1, wherein the pivotal linkage assembly comprises a foot member.
15. The apparatus of claim 1, wherein the pivotal linkage assembly comprises an arm link.
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16. The apparatus of claim 1, wherein the pivotal linkage assembly comprises a movable member.
17. The apparatus of claim 1, wherein the pivotal linkage assembly comprises two or  
5 more links.
18. The apparatus of claim 1, wherein the pivotal linkage assembly comprises an arm link, and wherein the arm link is pivotally coupled to the frame.
- 10 19. The apparatus of claim 1, wherein the pivotal linkage assembly comprises a foot member pivotally coupled to an arm link.
20. The apparatus of claim 1, further comprising a movable member, wherein the pivotal linkage assembly comprises a foot member, and wherein the foot member is coupled to  
15 the movable member.
21. The apparatus of claim 1, further comprising a movable member, wherein the pivotal linkage assembly comprises a foot member, and wherein the foot member is coupled to the movable member such that the foot member is configured to move in a dynamic  
20 angular relationship to the movable member.
22. The apparatus of claim 1, further comprising a movable member, wherein the pivotal linkage assembly comprises a foot member and an arm link, and wherein the foot member is coupled to the movable member.  
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23. The apparatus of claim 1, further comprising a movable member, wherein the pivotal linkage assembly comprises a foot member, and wherein the foot member is coupled to the movable member through the variable stride system.
- 30 24. The apparatus of claim 1, wherein the variable stride system comprises at least one cam device.

25. The apparatus of claim 1, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
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26. The apparatus of claim 25, wherein at least one of the cam devices comprises a portion of the pivotal linkage assembly.
27. The apparatus of claim 1, wherein the variable stride system comprises a spring.
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28. The apparatus of claim 1, wherein the variable stride system comprises a damper.
29. The apparatus of claim 1, wherein the variable stride system is located at a portion of the pivotal linkage assembly distal from the location of the coupling between the pivotal linkage assembly and the crank system.
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30. The apparatus of claim 1, wherein the variable stride system is located at a portion of the pivotal linkage assembly at or near a location the user's foot interacts with the pivotal linkage assembly.
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31. The apparatus of claim 1, further comprising a movable member, wherein the movable member is translatably coupled to the frame.
32. The apparatus of claim 1, further comprising a movable member, wherein the movable member is translatably coupled to the frame through a roller.
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33. The apparatus of claim 1, wherein the crank system comprises a pulley.
34. The apparatus of claim 33, wherein the pulley is coupled to a brake/inertia device.
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35. The apparatus of claim 1, wherein the apparatus comprises a left pivotal linkage assembly and a right pivotal linkage assembly, and wherein the left pivotal linkage assembly and the right pivotal linkage assembly are cross coupled so that the left pivotal linkage assembly moves in opposition to the right pivotal linkage assembly.
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36. The apparatus of claim 1, further comprising a telescoping member coupled to the pivotal linkage assembly.
37. The apparatus of claim 1, further comprising a telescoping member having at least one damper coupled to the pivotal linkage assembly.
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38. The apparatus of claim 1, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
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39. The apparatus of claim 1, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.
40. The apparatus of claim 1, wherein the variable stride system is coupled to the pivotal linkage assembly such that a force from a majority of the weight of the user is applied to the variable stride system.
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41. The apparatus of claim 1, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
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42. The apparatus of claim 1, wherein the crank system is coupled to the frame at a forward portion of the frame.
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43. The apparatus of claim 1, wherein the crank system is coupled to the frame at a rearward portion of the frame.

44. The apparatus of claim 1, wherein the crank system is directly attached to the frame.
45. The apparatus of claim 1, wherein the variable stride system is directly attached to the  
5 pivotal linkage assembly.
46. The apparatus of claim 1, further comprising a movable member directly attached to the crank system.
- 10 47. The apparatus of claim 1, further comprising a movable member directly attached to the crank system and the variable stride system.
48. The apparatus of claim 1, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 15 49. The apparatus of claim 1, further comprising a pivotal member coupled to the variable stride system, wherein the pivotal member is configured to allow independent pivoting of the variable stride system relative to the pivotal linkage assembly during use of the apparatus.
- 20 50. The apparatus of claim 1, further comprising a second crank system coupled to the variable stride system.
51. The apparatus of claim 1, further comprising a second crank system coupled to the  
25 variable stride system, wherein the crank system and the second crank system are configured to allow independent pivoting of the variable stride system relative to the pivotal linkage assembly during use of the apparatus.
52. A variable stride exercise apparatus, comprising:  
30 a frame;  
a crank system coupled to the frame;

a foot member coupled to the crank system, wherein the foot member comprises a footpad;

a variable stride system coupled to the foot member within about 24 inches of an end of the footpad, wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;

wherein the apparatus is configured such that a foot of the user can travel in a substantially closed path during use of the apparatus; and

wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

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53. The apparatus of claim 52, wherein the variable stride system is coupled to the foot member within about 18 inches of an end of the footpad.

54. The apparatus of claim 52, wherein the variable stride system is coupled to the foot member within about 12 inches of an end of the footpad.

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55. The apparatus of claim 52, wherein the substantially closed path comprises a substantially elliptical path.

56. The apparatus of claim 52, wherein the substantially closed path comprises an orbital path.

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57. The apparatus of claim 52, wherein the apparatus is configured such that the foot of the user can also travel in a curvilinear path during use of the apparatus.

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58. The apparatus of claim 52, wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.

59. The apparatus of claim 52, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
- 5 60. The apparatus of claim 52, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.
- 10 61. The apparatus of claim 52, further comprising a movable member coupled to the foot member.
62. The apparatus of claim 52, further comprising one or more links coupled to the foot member.
- 15 63. The apparatus of claim 52, further comprising a movable member coupled to the crank system.
64. The apparatus of claim 52, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a reciprocating path.
- 20 65. The apparatus of claim 52, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a closed path.
- 25 66. The apparatus of claim 52, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.
67. The apparatus of claim 52, wherein the foot member is coupled to the crank system through the variable stride system.
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68. The apparatus of claim 52, further comprising a movable member, wherein the foot member is coupled to the movable member through the variable stride system.
- 5 69. The apparatus of claim 52, further comprising an arm link coupled to the foot member.
70. The apparatus of claim 52, further comprising an arm link coupled to the foot member through two or more links.
- 10 71. The apparatus of claim 52, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
72. The apparatus of claim 52, further comprising a movable member coupled to the foot member, wherein the foot member is coupled to the movable member such that the foot member is configured to move in a dynamic angular relationship to the movable member.
- 15 73. The apparatus of claim 52, wherein the variable stride system comprises at least one cam device.
- 20 74. The apparatus of claim 52, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
75. The apparatus of claim 74, wherein at least one of the cam devices comprises a portion of the foot member.
- 25 76. The apparatus of claim 52, wherein the variable stride system comprises a spring.
77. The apparatus of claim 52, wherein the variable stride system comprises a damper.
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78. The apparatus of claim 52, further comprising a movable member, wherein the movable member is translatably coupled to the frame.
- 5 79. The apparatus of claim 52, further comprising a movable member, wherein the movable member is translatably coupled to the frame through a roller.
80. The apparatus of claim 52, wherein the crank system comprises a pulley.
- 10 81. The apparatus of claim 80, wherein the pulley is coupled to a brake/inertia device.
82. The apparatus of claim 52, further comprising a telescoping member coupled to the foot member.
- 15 83. The apparatus of claim 52, further comprising a telescoping member having at least one damper coupled to the foot member.
84. The apparatus of claim 52, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
- 20 85. The apparatus of claim 52, wherein the variable stride system is configured to provide a force that restores the footpad to a neutral position during use of the apparatus.
- 25 86. The apparatus of claim 52, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
- 30 87. The apparatus of claim 52, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.

88. The apparatus of claim 52, wherein the crank system is coupled to the frame at a forward portion of the frame.
89. The apparatus of claim 52, wherein the crank system is coupled to the frame at a rearward portion of the frame.
90. The apparatus of claim 52, wherein the crank system is directly attached to the frame.
91. The apparatus of claim 52, wherein the variable stride system is directly attached to the foot member.
92. The apparatus of claim 52, further comprising a movable member directly attached to the crank system.
93. The apparatus of claim 52, further comprising a movable member directly attached to the crank system and the variable stride system.
94. The apparatus of claim 52, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
95. The apparatus of claim 52, further comprising a pivotal member coupled to the variable stride system, wherein the pivotal member is configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.
96. The apparatus of claim 52, further comprising a second crank system coupled to the variable stride system, wherein the crank system and the second crank system are configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.
97. A variable stride exercise apparatus, comprising:

a frame;  
a crank system coupled to the frame;  
a foot member coupled to the crank system, wherein the foot member comprises a  
footpad;

- 5           a variable stride system coupled to the foot member such that at least a portion of  
the variable stride system is under at least a portion of the footpad, wherein the variable  
stride system is configured to allow a user of the apparatus to vary the length of the user's  
stride during use of the apparatus;  
          wherein the apparatus is configured such that a foot of the user can travel in a  
10 substantially closed path during use of the apparatus; and  
          wherein the apparatus is configured such that at least a portion of the apparatus  
remains substantially stationary during use.

98. The apparatus of claim 97, wherein the substantially closed path comprises a  
15 substantially elliptical path.

99. The apparatus of claim 97, wherein the substantially closed path comprises an orbital  
path.

- 20   100. The apparatus of claim 97, wherein the apparatus is configured such that the foot  
of the user travels in a substantially closed path during use of the apparatus.

101. The apparatus of claim 97, wherein the apparatus is configured such that the foot  
of the user can also travel in a curvilinear path during use of the apparatus.

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102. The apparatus of claim 97, wherein the variable stride system is configured such  
that the user of the apparatus, by varying the user's stride, can thereby selectively vary a  
path of the foot member.

103. The apparatus of claim 97, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
- 5 104. The apparatus of claim 97, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.
- 10 105. The apparatus of claim 97, further comprising a movable member coupled to the foot member.
106. The apparatus of claim 97, further comprising one or more links coupled to the foot member.
- 15 107. The apparatus of claim 97, further comprising a movable member coupled to the crank system.
108. The apparatus of claim 97, further comprising a movable member coupled to the crank system, wherein at least a portion of the movable member is configured to move in a reciprocating path.
- 20 109. The apparatus of claim 97, further comprising a movable member coupled to the crank system, wherein at least a portion of the movable member is configured to move in a closed path.
- 25 110. The apparatus of claim 97, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.
- 30 111. The apparatus of claim 97, wherein the foot member is coupled to the crank system through the variable stride system.

112. The apparatus of claim 97, further comprising a movable member, wherein the foot member is coupled to the movable member through the variable stride system.
- 5 113. The apparatus of claim 97, further comprising an arm link coupled to the foot member.
114. The apparatus of claim 97, further comprising an arm link coupled to the foot member through two or more links.
- 10 115. The apparatus of claim 97, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
116. The apparatus of claim 97, further comprising a movable member coupled to the foot member, wherein the foot member is coupled to the movable member such that the foot member is configured to move in a dynamic angular relationship to the movable member.
- 15 117. The apparatus of claim 97, wherein the variable stride system comprises at least one cam device.
- 20 118. The apparatus of claim 97, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
- 25 119. The apparatus of claim 118, wherein at least one of the cam devices comprises a portion of the foot member.
120. The apparatus of claim 97, wherein the variable stride system comprises a spring.
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121. The apparatus of claim 97, wherein the variable stride system comprises a damper.
122. The apparatus of claim 97, further comprising a movable member, wherein the  
5 movable member is translatably coupled to the frame.
123. The apparatus of claim 97, further comprising a movable member, wherein the movable member is translatably coupled to the frame through a roller.
- 10 124. The apparatus of claim 97, wherein the crank system comprises a pulley.
125. The apparatus of claim 124, wherein the pulley is coupled to a brake/inertia device.
- 15 126. The apparatus of claim 97, further comprising a telescoping member coupled to the foot member.
127. The apparatus of claim 97, further comprising a telescoping member having at least one damper coupled to the foot member.
- 20 128. The apparatus of claim 97, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
- 25 129. The apparatus of claim 97, wherein the variable stride system is configured to provide a force that restores the footpad to a neutral position during use of the apparatus.
130. The apparatus of claim 97, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the  
30 variable stride system.

131. The apparatus of claim 97, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
- 5 132. The apparatus of claim 97, wherein the crank system is coupled to the frame at a forward portion of the frame.
133. The apparatus of claim 97, wherein the crank system is coupled to the frame at a rearward portion of the frame.
- 10 134. The apparatus of claim 97, wherein the crank system is directly attached to the frame.
135. The apparatus of claim 97, wherein the variable stride system is directly attached
- 15 to the foot member.
136. The apparatus of claim 97, further comprising a movable member directly attached to the crank system.
- 20 137. The apparatus of claim 97, further comprising a movable member directly attached to the crank system and the variable stride system.
138. The apparatus of claim 97, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 25 139. The apparatus of claim 97, further comprising a pivotal member coupled to the variable stride system, wherein the pivotal member is configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.
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140. The apparatus of claim 97, further comprising a second crank system coupled to the variable stride system.

141. The apparatus of claim 97, further comprising a second crank system coupled to the variable stride system, wherein the crank system and the second crank system are configured to allow independent pivoting of the foot member relative to the variable stride system during use of the apparatus.

142. A variable stride exercise apparatus, comprising:  
a frame;  
a crank system coupled to the frame;  
a foot member coupled to the crank system, wherein the foot member comprises a footpad;  
a variable stride system coupled to the foot member at a location between the footpad and the crank system, wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;  
wherein the apparatus is configured such that a foot of the user can travel in a substantially closed path during use of the apparatus; and  
wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

143. The apparatus of claim 142, wherein the substantially closed path comprises a substantially elliptical path.

144. The apparatus of claim 142, wherein the substantially closed path comprises an orbital path.

145. The apparatus of claim 142, wherein the apparatus is configured such that the foot of the user travels in a substantially closed path during use of the apparatus.

146. The apparatus of claim 142, wherein the apparatus is configured such that the foot of the user can also travel in a curvilinear path during use of the apparatus.
147. The apparatus of claim 142, wherein the variable stride system is configured such  
5 that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.
148. The apparatus of claim 142, wherein the variable stride system is configured to  
10 allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
149. The apparatus of claim 142, further comprising a second foot member, wherein  
the foot member and the second foot member comprise a left foot member and a right  
foot member, and wherein the left foot member and the right foot member are cross  
15 coupled so that the left foot member moves in opposition to the right foot member.
150. The apparatus of claim 142, further comprising a movable member coupled to the  
foot member.
- 20 151. The apparatus of claim 142, further comprising a movable member coupled to the crank system.
152. The apparatus of claim 142, further comprising a movable member coupled to the  
crank system, wherein at least a portion of the movable member is configured to move in  
25 a reciprocating path.
153. The apparatus of claim 142, further comprising a movable member coupled to the  
crank system, wherein at least a portion of the movable member is configured to move in  
a closed path.  
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154. The apparatus of claim 142, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.
155. The apparatus of claim 142, wherein the foot member is coupled to the crank  
5 system through the variable stride system.
156. The apparatus of claim 142, further comprising a movable member, wherein the foot member is coupled to the movable member through the variable stride system.
- 10 157. The apparatus of claim 142, further comprising an arm link coupled to the foot member.
158. The apparatus of claim 142, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
- 15 159. The apparatus of claim 142, further comprising a movable member coupled to the foot member, wherein the foot member is coupled to the movable member such that the foot member is configured to move in a dynamic angular relationship to the movable member.
- 20 160. The apparatus of claim 142, wherein the variable stride system comprises at least one cam device.
161. The apparatus of claim 142, wherein the variable stride system comprises one or  
25 more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
162. The apparatus of claim 161, wherein at least one of the cam devices comprises a  
30 portion of the foot member.

163. The apparatus of claim 142, wherein the variable stride system comprises a spring.
- 5 164. The apparatus of claim 142, wherein the variable stride system comprises a damper.
165. The apparatus of claim 142, further comprising a movable member, wherein the movable member is translatably coupled to the frame.
- 10 166. The apparatus of claim 142, further comprising a movable member, wherein the movable member is translatably coupled to the frame through a roller.
167. The apparatus of claim 142, wherein the crank system comprises a pulley.
- 15 168. The apparatus of claim 167, wherein the pulley is coupled to a brake/inertia device.
169. The apparatus of claim 142, further comprising a telescoping member coupled to the foot member.
- 20 170. The apparatus of claim 142, further comprising a telescoping member having at least one damper coupled to the foot member.
171. The apparatus of claim 142, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
- 25 172. The apparatus of claim 142, wherein the variable stride system is configured to provide a force that restores the footpad to a neutral position during use of the apparatus.
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173. The apparatus of claim 142, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
- 5 174. The apparatus of claim 142, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
175. The apparatus of claim 142, wherein the crank system is coupled to the frame at a  
10 forward portion of the frame.
176. The apparatus of claim 142, wherein the crank system is coupled to the frame at a rearward portion of the frame.
- 15 177. The apparatus of claim 142, wherein the crank system is directly attached to the frame.
178. The apparatus of claim 142, wherein the variable stride system is directly attached to the foot member.  
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179. The apparatus of claim 142, further comprising a movable member directly attached to the crank system.
180. The apparatus of claim 142, further comprising a movable member directly  
25 attached to the crank system and the variable stride system.
181. The apparatus of claim 142, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 30 182. The apparatus of claim 142, further comprising a pivotal member coupled to the variable stride system, wherein the pivotal member is configured to allow independent

pivoting of the variable stride system relative to the foot member during use of the apparatus.

183. The apparatus of claim 142, further comprising a second crank system coupled to  
5 the variable stride system, wherein the crank system and the second crank system are configured to allow independent pivoting of the foot member relative to the variable stride system during use of the apparatus.

184. A variable stride exercise apparatus, comprising:  
10 a frame comprising a first end and a second end;  
a crank system coupled to the frame at a location closer to the first end of the frame than the second end of the frame;  
a foot member coupled to the crank system, wherein the foot member comprises a footpad;  
15 a variable stride system coupled to the foot member, wherein the variable stride system is located closer to the second end of the frame than the first end of the frame, and wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;  
wherein the apparatus is configured such that a foot of the user can travel in a  
20 substantially closed path during use of the apparatus; and  
wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

185. The apparatus of claim 184, wherein the substantially closed path comprises a  
25 substantially elliptical path.

186. The apparatus of claim 184, wherein the substantially closed path comprises an orbital path.

30 187. The apparatus of claim 184, wherein the apparatus is configured such that the foot of the user travels in a substantially closed path during use of the apparatus.

188. The apparatus of claim 184, wherein the apparatus is configured such that the foot of the user can also travel in a curvilinear path during use of the apparatus.
- 5 189. The apparatus of claim 184, wherein the footpad is located at a position that is between the location of the crank system and the location of the variable stride system.
190. The apparatus of claim 184, wherein the footpad is located between the crank system and the variable stride system.
- 10 191. The apparatus of claim 184, wherein the first end is the front of the frame and the second end is the back of the frame.
192. The apparatus of claim 184, wherein the first end is the back of the frame and the  
15 second end is the front of the frame.
193. The apparatus of claim 184, wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.
- 20 194. The apparatus of claim 184, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
- 25 195. The apparatus of claim 184, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.
- 30 196. The apparatus of claim 184, further comprising a movable member coupled to the foot member.

197. The apparatus of claim 184, further comprising a movable member coupled to the crank system.
- 5 198. The apparatus of claim 184, further comprising a movable member coupled to the crank system, wherein at least a portion of the movable member is configured to move in a reciprocating path.
- 10 199. The apparatus of claim 184, further comprising a movable member coupled to the crank system, wherein at least a portion of the movable member is configured to move in a closed path.
200. The apparatus of claim 184, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.
- 15 201. The apparatus of claim 184, wherein the foot member is coupled to the crank system through the variable stride system.
202. The apparatus of claim 184, further comprising a movable member, wherein the foot member is coupled to the movable member through the variable stride system.
- 20 203. The apparatus of claim 184, further comprising an arm link coupled to the foot member.
- 25 204. The apparatus of claim 184, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
- 30 205. The apparatus of claim 184, further comprising a movable member coupled to the foot member, wherein the foot member is coupled to the movable member such that the foot member is configured to move in a dynamic angular relationship to the movable member.



206. The apparatus of claim 184, wherein the variable stride system comprises at least one cam device.
- 5 207. The apparatus of claim 184, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
208. The apparatus of claim 207, wherein at least one of the cam devices comprises a  
10 portion of the foot member.
209. The apparatus of claim 184, wherein the variable stride system comprises a spring.
- 15 210. The apparatus of claim 184, wherein the variable stride system comprises a damper.
211. The apparatus of claim 184, further comprising a movable member, wherein the movable member is translatably coupled to the frame.  
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212. The apparatus of claim 184, further comprising a movable member, wherein the movable member is translatably coupled to the frame through a roller.
213. The apparatus of claim 184, wherein the crank system comprises a pulley.  
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214. The apparatus of claim 213, wherein the pulley is coupled to a brake/inertia device.
215. The apparatus of claim 184, further comprising a telescoping member coupled to  
30 the foot member.

216. The apparatus of claim 184, further comprising a telescoping member having at least one damper coupled to the foot member.
217. The apparatus of claim 184, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
218. The apparatus of claim 184, wherein the variable stride system is configured to provide a force that restores the footpad to a neutral position during use of the apparatus.
219. The apparatus of claim 184, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
220. The apparatus of claim 184, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
221. The apparatus of claim 184, wherein the crank system is coupled to the frame at a forward portion of the frame.
222. The apparatus of claim 184, wherein the crank system is coupled to the frame at a rearward portion of the frame.
223. The apparatus of claim 184, wherein the crank system is directly attached to the frame.
224. The apparatus of claim 184, wherein the variable stride system is directly attached to the foot member.

225. The apparatus of claim 184, further comprising a movable member directly attached to the crank system.
226. The apparatus of claim 184, further comprising a movable member directly  
5 attached to the crank system and the variable stride system.
227. The apparatus of claim 184, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 10 228. The apparatus of claim 184, further comprising a pivotal member coupled to the variable stride system, wherein the pivotal member is configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.
- 15 229. The apparatus of claim 184, further comprising a second crank system coupled to the variable stride system, wherein the crank system and the second crank system are configured to allow independent pivoting of the foot member relative to the variable stride system during use of the apparatus.
- 20 230. A variable stride exercise apparatus, comprising:  
a frame;  
a crank system coupled to the frame;  
a movable member coupled to the crank system;  
a variable stride system coupled to a foot member and the movable member,  
25 wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;  
wherein the apparatus is configured such that the foot of a user can travel in a substantially closed path during use of the apparatus; and  
wherein the apparatus is configured such that at least a portion of the apparatus  
30 remains substantially stationary during use.

231. The apparatus of claim 230, wherein the substantially closed path comprises a substantially elliptical path.
- 5 232. The apparatus of claim 230, wherein the substantially closed path comprises an orbital path.
233. The apparatus of claim 230, wherein the apparatus is configured such that the foot of the user can also travel in a curvilinear path during use of the apparatus.
- 10 234. The apparatus of claim 230, wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.
235. The apparatus of claim 230, wherein the variable stride system is configured to  
15 allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
236. The apparatus of claim 230, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right  
20 foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.
237. The apparatus of claim 230, wherein the foot member is coupled to the movable member through the variable stride system.  
25
238. The apparatus of claim 230, wherein the movable member is configured to move in a reciprocating path.
239. The apparatus of claim 230, wherein the movable member is configured to move  
30 in a closed path.

240. The apparatus of claim 230, further comprising an arm link coupled to the foot member.
241. The apparatus of claim 230, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
242. The apparatus of claim 230, wherein the foot member is coupled to the movable member such that the foot member is configured to move in a dynamic angular relationship to the movable member.
243. The apparatus of claim 230, wherein the variable stride system comprises at least one cam device.
244. The apparatus of claim 230, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
245. The apparatus of claim 244, wherein at least one of the cam devices comprises a portion of the foot member.
246. The apparatus of claim 230, wherein the variable stride system comprises a spring.
247. The apparatus of claim 230, wherein the variable stride system comprises a damper.
248. The apparatus of claim 230, wherein the movable member is translatably coupled to the frame.
249. The apparatus of claim 230, wherein the movable member is translatably coupled to the frame through a roller.

250. The apparatus of claim 230, wherein the crank system comprises a pulley.
251. The apparatus of claim 250, wherein the pulley is coupled to a brake/inertia  
5 device.
252. The apparatus of claim 230, further comprising a telescoping member coupled to the foot member.
- 10 253. The apparatus of claim 230, further comprising a telescoping member having at least one damper coupled to the foot member.
254. The apparatus of claim 230, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an  
15 amount of force applied by the user's foot during use of the apparatus.
255. The apparatus of claim 230, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the  
20 apparatus.
256. The apparatus of claim 230, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
- 25 257. The apparatus of claim 230, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
258. The apparatus of claim 230, wherein the crank system is coupled to the frame at a  
30 forward portion of the frame.

259. The apparatus of claim 230, wherein the crank system is coupled to the frame at a rearward portion of the frame.
- 5 260. The apparatus of claim 230, wherein the crank system is directly attached to the frame.
261. The apparatus of claim 230, wherein the variable stride system is directly attached to the foot member.
- 10 262. The apparatus of claim 230, wherein the movable member is directly attached to the crank system.
263. The apparatus of claim 230, wherein the movable member is directly attached to the crank system and the variable stride system.
- 15 264. The apparatus of claim 230, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
265. The apparatus of claim 230, further comprising a pivotal member coupled to the variable stride system, wherein the pivotal member is configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.
- 20 266. The apparatus of claim 230, further comprising a second crank system coupled to the variable stride system, wherein the crank system and the second crank system are configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.
- 25 267. A variable stride exercise apparatus, comprising:  
30 a frame;  
a crank system coupled to the frame;

a movable member coupled to the crank system, wherein the movable member comprises a first end connected to the crank system, and a second end;

a variable stride system coupled to a foot member and the movable member at a location between the second end of the movable member and the crank system, wherein  
5 the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;

wherein the apparatus is configured such that a foot of the user can travel in a substantially closed path during use of the apparatus; and

wherein the apparatus is configured such that at least a portion of the apparatus  
10 remains substantially stationary during use.

268. The apparatus of claim 267, wherein the substantially closed path comprises a substantially elliptical path.

15 269. The apparatus of claim 267, wherein the substantially closed path comprises an orbital path.

270. The apparatus of claim 267, wherein the apparatus is configured such that the foot of the user can also travel in a curvilinear path during use of the apparatus.

20

271. The apparatus of claim 267, wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.

25 272. The apparatus of claim 267, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.

273. The apparatus of claim 267, further comprising a second foot member, wherein  
30 the foot member and the second foot member comprise a left foot member and a right



foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.

5 274. The apparatus of claim 267, wherein the foot member is coupled to the movable member through the variable stride system.

275. The apparatus of claim 267, wherein the movable member is configured to move in a reciprocating path.

10 276. The apparatus of claim 267, wherein the movable member is configured to move in a closed path.

15 277. The apparatus of claim 267, further comprising an arm link coupled to the foot member.

278. The apparatus of claim 267, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.

20 279. The apparatus of claim 267, wherein the foot member is coupled to the movable member such that the foot member is configured to move in a dynamic angular relationship to the movable member.

25 280. The apparatus of claim 267, wherein the variable stride system comprises at least one cam device.

281. The apparatus of claim 267, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.

30 282. The apparatus of claim 281, wherein at least one of the cam devices comprises a portion of the foot member.

283. The apparatus of claim 267, wherein the variable stride system comprises a spring.
- 5 284. The apparatus of claim 267, wherein the variable stride system comprises a damper.
285. The apparatus of claim 267, wherein the movable member is translatably coupled to the frame.
- 10 286. The apparatus of claim 267, wherein the movable member is translatably coupled to the frame through a roller.
287. The apparatus of claim 267, wherein the crank system comprises a pulley.
- 15 288. The apparatus of claim 287, wherein the pulley is coupled to a brake/inertia device.
289. The apparatus of claim 267, further comprising a telescoping member coupled to the foot member.
- 20 290. The apparatus of claim 267, further comprising a telescoping member having at least one damper coupled to the foot member.
- 25 291. The apparatus of claim 267, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
- 30 292. The apparatus of claim 267, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.

293. The apparatus of claim 267, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
- 5
294. The apparatus of claim 267, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
- 10
295. The apparatus of claim 267, wherein the crank system is coupled to the frame at a forward portion of the frame.
296. The apparatus of claim 267, wherein the crank system is coupled to the frame at a rearward portion of the frame.
- 15
297. The apparatus of claim 267, wherein the crank system is directly attached to the frame.
298. The apparatus of claim 267, wherein the variable stride system is directly attached
- 20 to the foot member.
299. The apparatus of claim 267, wherein the movable member is directly attached to the crank system.
- 25
300. The apparatus of claim 267, wherein the movable member is directly attached to the crank system and the variable stride system.
301. The apparatus of claim 267, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
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302. The apparatus of claim 267, further comprising a pivotal member coupled to the variable stride system, wherein the pivotal member is configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.

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303. The apparatus of claim 267, further comprising a second crank system coupled to the variable stride system, wherein the crank system and the second crank system are configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.

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304. A variable stride exercise apparatus, comprising:

a frame;

a crank system coupled to the frame;

a movable member coupled to the crank system;

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a foot member coupled to the movable member using a variable stride system, wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;

wherein the apparatus is configured such that a foot of the user can travel in a substantially closed path during use of the apparatus; and

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wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

305. The apparatus of claim 304, wherein the substantially closed path comprises a substantially elliptical path.

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306. The apparatus of claim 304, wherein the substantially closed path comprises an orbital path.

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307. The apparatus of claim 304, wherein the apparatus is configured such that the foot of the user can also travel in a curvilinear path during use of the apparatus.

308. The apparatus of claim 304, wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.
- 5 309. The apparatus of claim 304, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
310. The apparatus of claim 304, further comprising a second foot member, wherein  
10 the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.
311. The apparatus of claim 304, wherein the foot member is coupled to the movable  
15 member through the variable stride system.
312. The apparatus of claim 304, wherein the movable member is configured to move in a reciprocating path.
- 20 313. The apparatus of claim 304, wherein the movable member is configured to move in a closed path.
314. The apparatus of claim 304, further comprising an arm link coupled to the foot  
25 member.
315. The apparatus of claim 304, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
316. The apparatus of claim 304, wherein the foot member is coupled to the movable  
30 member such that the foot member is configured to move in a dynamic angular relationship to the movable member.

317. The apparatus of claim 304, wherein the variable stride system comprises at least one cam device.
- 5 318. The apparatus of claim 304, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
319. The apparatus of claim 318, wherein at least one of the cam devices comprises a  
10 portion of the foot member.
320. The apparatus of claim 304, wherein the variable stride system comprises a spring.
- 15 321. The apparatus of claim 304, wherein the variable stride system comprises a damper.
322. The apparatus of claim 304, wherein the movable member is translatably coupled to the frame.  
20
323. The apparatus of claim 304, wherein the movable member is translatably coupled to the frame through a roller.
324. The apparatus of claim 304, wherein the crank system comprises a pulley.  
25
325. The apparatus of claim 324, wherein the pulley is coupled to a brake/inertia device.
326. The apparatus of claim 304, further comprising a telescoping member coupled to  
30 the foot member.

327. The apparatus of claim 304, further comprising a telescoping member having at least one damper coupled to the foot member.
328. The apparatus of claim 304, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
329. The apparatus of claim 304, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.
330. The apparatus of claim 304, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
331. The apparatus of claim 304, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
332. The apparatus of claim 304, wherein the crank system is coupled to the frame at a forward portion of the frame.
333. The apparatus of claim 304, wherein the crank system is coupled to the frame at a rearward portion of the frame.
334. The apparatus of claim 304, wherein the crank system is directly attached to the frame.
335. The apparatus of claim 304, wherein the variable stride system is directly attached to the foot member.

336. The apparatus of claim 304, wherein the movable member is directly attached to the crank system.
337. The apparatus of claim 304, wherein the movable member is directly attached to  
5 the crank system and the variable stride system.
338. The apparatus of claim 304, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 10 339. The apparatus of claim 304, further comprising a pivotal member coupled to the variable stride system, wherein the pivotal member is configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.
- 15 340. The apparatus of claim 304, further comprising a second crank system coupled to the variable stride system, wherein the crank system and the second crank system are configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.
- 20 341. A variable stride exercise apparatus, comprising:  
a frame;  
a crank system coupled to the frame;  
an arm link coupled to the frame;  
a foot member coupled to the arm link;  
25 a movable member coupled to the crank system;  
a variable stride system coupled to the movable member, wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;  
wherein the apparatus is configured such that a foot of the user can travel in a  
30 substantially closed path during use of the apparatus;



wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use; and

wherein the apparatus is configured such that the foot member moves in a dynamic angular relationship to the movable member.

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342. The apparatus of claim 341, wherein the substantially closed path comprises a substantially elliptical path.

343. The apparatus of claim 341, wherein the substantially closed path comprises an orbital path.

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344. The apparatus of claim 341, wherein the apparatus is configured such that the foot of the user can also travel in a curvilinear path during use of the apparatus.

345. The apparatus of claim 341, wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.

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346. The apparatus of claim 341, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.

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347. The apparatus of claim 341, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.

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348. The apparatus of claim 341, wherein the foot member is coupled to the movable member through the variable stride system.

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349. The apparatus of claim 341, wherein the movable member is configured to move in a reciprocating path.
- 5 350. The apparatus of claim 341, wherein the movable member is configured to move in a closed path.
351. The apparatus of claim 341, wherein the arm link is pivotally coupled to the frame.
- 10 352. The apparatus of claim 341, wherein the variable stride system comprises at least one cam device.
353. The apparatus of claim 341, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is  
15 configured to translate along a surface of at least one of the cam devices during use.
354. The apparatus of claim 353, wherein at least one of the cam devices comprises a portion of the foot member.
- 20 355. The apparatus of claim 341, wherein the variable stride system comprises a spring.
356. The apparatus of claim 341, wherein the variable stride system comprises a  
25 damper.
357. The apparatus of claim 341, wherein the movable member is translatably coupled to the frame.
358. The apparatus of claim 341, wherein the movable member is translatably coupled  
30 to the frame through a roller.

359. The apparatus of claim 341, wherein the crank system comprises a pulley.
360. The apparatus of claim 359, wherein the pulley is coupled to a brake/inertia device.
- 5 361. The apparatus of claim 341, further comprising a telescoping member coupled to the foot member.
362. The apparatus of claim 341, further comprising a telescoping member having at least one damper coupled to the foot member.
- 10 363. The apparatus of claim 341, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
- 15 364. The apparatus of claim 341, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.
- 20 365. The apparatus of claim 341, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
366. The apparatus of claim 341, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
- 25 367. The apparatus of claim 341, wherein the crank system is coupled to the frame at a forward portion of the frame.
- 30

368. The apparatus of claim 341, wherein the crank system is coupled to the frame at a rearward portion of the frame.
- 5 369. The apparatus of claim 341, wherein the crank system is directly attached to the frame.
370. The apparatus of claim 341, wherein the variable stride system is directly attached to the foot member.
- 10 371. The apparatus of claim 341, wherein the movable member is directly attached to the crank system.
372. The apparatus of claim 341, wherein the arm link is directly attached to the crank system.
- 15 373. The apparatus of claim 341, wherein the movable member is directly attached to the crank system and the variable stride system.
374. The apparatus of claim 341, further comprising a housing, wherein the housing  
20 encloses at least a portion of the crank system.
375. The apparatus of claim 341, further comprising a pivotal member coupled to the variable stride system, wherein the pivotal member is configured to allow independent pivoting of the variable stride system relative to the foot member during use of the  
25 apparatus.
376. The apparatus of claim 341, further comprising a second crank system coupled to the variable stride system.
- 30 377. The apparatus of claim 341, further comprising a second crank system coupled to the variable stride system, wherein the crank system and the second crank system are

configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.

378. A variable stride exercise apparatus, comprising:
- 5 a frame;  
a crank system coupled to the frame;  
an arm link coupled to the frame;  
a foot member configured to travel in multiple paths, wherein the foot member is directly attached to the arm link, and wherein the foot member and the arm link are
- 10 configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member;
- wherein the apparatus is configured such that a foot of the user can travel in a substantially closed path during use of the apparatus; and
- wherein the apparatus is configured such that at least a portion of the apparatus
- 15 remains substantially stationary during use.

379. The apparatus of claim 378, wherein the substantially closed path comprises a substantially elliptical path.

- 20 380. The apparatus of claim 378, wherein the substantially closed path comprises an orbital path.

381. The apparatus of claim 378, wherein the apparatus is configured such that the foot of the user can also travel in a curvilinear path during use of the apparatus.

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382. The apparatus of claim 378, wherein the foot member and the arm link are configured such that the user's stride controls the path of the foot member.

383. The apparatus of claim 378, wherein the foot member and the arm link are
- 30 configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path length of the foot member.

384. The apparatus of claim 378, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross  
5 coupled so that the left foot member moves in opposition to the right foot member.
385. The apparatus of claim 378, further comprising a movable member coupled to the foot member.
- 10 386. The apparatus of claim 378, further comprising a movable member coupled to the crank system.
387. The apparatus of claim 378, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a reciprocating  
15 path.
388. The apparatus of claim 378, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a closed path.
- 20 389. The apparatus of claim 378, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.
390. The apparatus of claim 378, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the foot  
25 member is coupled to the crank system through the variable stride system.
391. The apparatus of claim 378, further comprising a movable member, and a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the foot member is coupled to the movable member through the variable  
30 stride system.

392. The apparatus of claim 378, wherein the arm link is pivotally coupled to the frame.
393. The apparatus of claim 378, wherein the foot member is pivotally coupled to an arm link.
394. The apparatus of claim 378, further comprising a movable member coupled to the foot member such that the foot member is configured to move in a dynamic angular relationship to the movable member.
395. The apparatus of claim 378, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises at least one cam device.
396. The apparatus of claim 378, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
397. The apparatus of claim 396, wherein at least one of the cam devices comprises a portion of the foot member.
398. The apparatus of claim 378, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises a spring.
399. The apparatus of claim 378, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises a damper.

400. The apparatus of claim 378, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is located at a portion of the pivotal linkage assembly at or near a location the user's foot interacts with the foot member.
- 5
401. The apparatus of claim 378, further comprising a movable member, wherein the movable member is translatably coupled to the frame.
402. The apparatus of claim 378, further comprising a movable member, wherein the  
10 movable member is translatably coupled to the frame through a roller.
403. The apparatus of claim 378, wherein the crank system comprises a pulley.
404. The apparatus of claim 403, wherein the pulley is coupled to a brake/inertia  
15 device.
405. The apparatus of claim 378, further comprising a telescoping member coupled to the foot member.
- 20 406. The apparatus of claim 378, further comprising a telescoping member having at least one damper coupled to the foot member.
407. The apparatus of claim 378, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the  
25 variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
408. The apparatus of claim 378, further comprising a variable stride system coupled  
30 to the foot member to allow the user to selectively control stride length, wherein the



variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.

5 409. The apparatus of claim 378, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.

10 410. The apparatus of claim 378, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride during use of the apparatus.

15 411. The apparatus of claim 378, wherein the crank system is coupled to the frame at a forward portion of the frame.

412. The apparatus of claim 378, wherein the crank system is coupled to the frame at a rearward portion of the frame.

20 413. The apparatus of claim 378, wherein the crank system is directly attached to the frame.

414. The apparatus of claim 378, further comprising a housing, wherein the housing encloses at least a portion of the crank system.

25 415. The apparatus of claim 378, further comprising a second crank system coupled to the variable stride system.

30 416. The apparatus of claim 378, further comprising a second crank system coupled to the variable stride system, wherein the crank system and the second crank system are configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.

417. A variable stride exercise apparatus, comprising:  
a frame;  
a crank system coupled to the frame;  
5 a movable member coupled to the crank system;  
a foot member coupled to the movable member, wherein the foot member and the  
movable member are configured such that the user of the apparatus can selectively  
control the path of the foot member;  
wherein the apparatus is configured such that a foot of the user can travel in a  
10 substantially closed path during use of the apparatus; and  
wherein the apparatus is configured such that at least a portion of the apparatus  
remains substantially stationary during use.
418. The apparatus of claim 417, wherein the substantially closed path comprises a  
15 substantially elliptical path.
419. The apparatus of claim 417, wherein the substantially closed path comprises an  
orbital path.
- 20 420. The apparatus of claim 417, wherein the apparatus is configured such that the foot  
of the user can also travel in a curvilinear path during use of the apparatus.
421. The apparatus of claim 417, wherein the foot member and the movable member  
are configured such that the user of the apparatus, by varying the user's stride, can  
25 thereby selectively vary a path of the foot member.
422. The apparatus of claim 417, wherein the foot member and the movable member  
are coupled such that the user of the apparatus can selectively control the path of the foot  
member.  
30

423. The apparatus of claim 417, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.

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424. The apparatus of claim 417, wherein the movable member is coupled to the foot member and the crank system.

425. The apparatus of claim 417, wherein the movable member is configured to move in a reciprocating path.

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426. The apparatus of claim 417, wherein the movable member is configured to move in a closed path.

427. The apparatus of claim 417, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the foot member is coupled to the crank system through the variable stride system.

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428. The apparatus of claim 417, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the foot member is coupled to the movable member through the variable stride system.

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429. The apparatus of claim 417, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.

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430. The apparatus of claim 417, further comprising an arm link pivotally coupled to the foot member.

431. The apparatus of claim 417, wherein the movable member is coupled to the foot member such that the foot member is configured to move in a dynamic angular relationship to the movable member.

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432. The apparatus of claim 417, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises at least one cam device.

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433. The apparatus of claim 417, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.

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434. The apparatus of claim 433, wherein at least one of the cam devices comprises a portion of the foot member.

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435. The apparatus of claim 417, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises a spring.

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436. The apparatus of claim 417, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises a damper.

25

437. The apparatus of claim 417, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is located at a portion of the pivotal linkage assembly at or near a location the user's foot interacts with the foot member.

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438. The apparatus of claim 417, wherein the movable member is translatably coupled to the frame.

439. The apparatus of claim 417, wherein the movable member is translatably coupled to the frame through a roller.
440. The apparatus of claim 417, wherein the crank system comprises a pulley.
- 5 441. The apparatus of claim 440, wherein the pulley is coupled to a brake/inertia device.
- 10 442. The apparatus of claim 417, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
- 15 443. The apparatus of claim 417, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.
- 20 444. The apparatus of claim 417, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
- 25 445. The apparatus of claim 417, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the path of the foot member during use of the apparatus.
- 30 446. The apparatus of claim 417, wherein the crank system is coupled to the frame at a forward portion of the frame.

447. The apparatus of claim 417, wherein the crank system is coupled to the frame at a rearward portion of the frame.
- 5 448. The apparatus of claim 417, wherein the crank system is directly attached to the frame.
449. The apparatus of claim 417, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 10 450. The apparatus of claim 417, further comprising a second crank system coupled to the variable stride system.
451. The apparatus of claim 417, further comprising a second crank system coupled to the variable stride system, wherein the crank system and the second crank system are  
15 configured to allow independent pivoting of the variable stride system relative to the foot member during use of the apparatus.
452. A variable stride exercise apparatus, comprising:  
a frame;  
20 a crank system coupled to the frame;  
a pivotal linkage assembly coupled to the crank system;  
a variable stride system having at least two cam devices coupled to the pivotal linkage assembly, wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;  
25 a footpad coupled to the pivotal linkage assembly through the variable stride system;  
wherein the apparatus is configured such that a foot of the user can travel in a substantially closed path during use of the apparatus; and  
wherein the apparatus is configured such that at least a portion of the apparatus  
30 remains substantially stationary during use.

453. The apparatus of claim 452, wherein the substantially closed path comprises a substantially elliptical path.
- 5 454. The apparatus of claim 452, wherein the substantially closed path comprises an orbital path.
- 10 455. The apparatus of claim 452, wherein the pivotal linkage assembly comprises a foot member, and wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.
- 15 456. The apparatus of claim 452, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
- 20 457. The apparatus of claim 452, further comprising a movable member coupled to the crank system.
- 25 458. The apparatus of claim 452, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a reciprocating path.
- 30 459. The apparatus of claim 452, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a closed path.
460. The apparatus of claim 452, wherein the pivotal linkage assembly comprises a foot member.
461. The apparatus of claim 452, wherein the pivotal linkage assembly comprises an arm link.

462. The apparatus of claim 452, wherein the pivotal linkage assembly comprises a movable member.
463. The apparatus of claim 452, wherein the pivotal linkage assembly comprises an arm link, and wherein the arm link is pivotally coupled to the frame.
464. The apparatus of claim 452, wherein the pivotal linkage assembly comprises a foot member pivotally coupled to an arm link.
465. The apparatus of claim 452, wherein the variable stride system comprises at least two rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
466. The apparatus of claim 452, wherein the variable stride system is located at a portion of the pivotal linkage assembly at or near a location the user's foot interacts with the pivotal linkage assembly.
467. The apparatus of claim 452, further comprising a movable member, wherein the movable member is translatably coupled to the frame.
468. The apparatus of claim 452, further comprising a movable member, wherein the movable member is translatably coupled to the frame through a roller.
469. The apparatus of claim 452, wherein the crank system comprises a pulley.
470. The apparatus of claim 452, wherein the apparatus comprises a left pivotal linkage assembly and a right pivotal linkage assembly, and wherein the left pivotal linkage assembly and the right pivotal linkage assembly are cross coupled so that the left pivotal linkage assembly moves in opposition to the right pivotal linkage assembly.



471. The apparatus of claim 452, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
- 5 472. The apparatus of claim 452, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.
473. The apparatus of claim 452, wherein the variable stride system is coupled to the  
10 pivotal linkage assembly such that a force from a majority of the weight of the user is applied to the variable stride system.
474. The apparatus of claim 452, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length  
15 during use of the apparatus.
475. The apparatus of claim 452, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 20 476. A variable stride exercise apparatus, comprising:  
a frame;  
a crank system coupled to the frame;  
a pivotal linkage assembly coupled to the crank system;  
a footpad configured to translate along a portion of the pivotal linkage assembly  
25 through one or more rollers;  
a variable stride system coupled to the pivotal linkage assembly, wherein the variable stride system comprises at least one spring/damper device, and wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;  
30 wherein the apparatus is configured such that a foot of the user can travel in a substantially closed path during use of the apparatus; and

wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

- 5 477. The apparatus of claim 476, wherein the substantially closed path comprises a substantially elliptical path.
478. The apparatus of claim 476, wherein the substantially closed path comprises an orbital path.
- 10 479. The apparatus of claim 476, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
480. The apparatus of claim 476, further comprising a movable member coupled to the  
15 pivotal linkage assembly.
481. The apparatus of claim 476, further comprising a movable member coupled to the crank system.
- 20 482. The apparatus of claim 476, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a reciprocating path.
483. The apparatus of claim 476, further comprising a movable member coupled to the  
25 crank system, wherein the movable member is configured to move in a closed path.
484. The apparatus of claim 476, further comprising a movable member, wherein the movable member is coupled to the pivotal linkage assembly and the crank system.
- 30 485. The apparatus of claim 476, wherein the pivotal linkage assembly comprises an arm link.

486. The apparatus of claim 476, wherein the pivotal linkage assembly comprises an arm link, and wherein the arm link is pivotally coupled to the frame.

5 487. The apparatus of claim 476, wherein the variable stride system is located at a portion of the pivotal linkage assembly distal from the location of the coupling between the pivotal linkage assembly and the crank system.

488. The apparatus of claim 476, wherein the variable stride system is located at a  
10 portion of the pivotal linkage assembly at or near a location the user's foot interacts with the pivotal linkage assembly.

489. The apparatus of claim 476, further comprising a movable member, wherein the movable member is translatably coupled to the frame.

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490. The apparatus of claim 476, further comprising a movable member, wherein the movable member is translatably coupled to the frame through a roller.

491. The apparatus of claim 476, wherein the crank system comprises a pulley.

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492. The apparatus of claim 476, wherein the apparatus comprises a left pivotal linkage assembly and a right pivotal linkage assembly, and wherein the left pivotal linkage assembly and the right pivotal linkage assembly are cross coupled so that the left pivotal linkage assembly moves in opposition to the right pivotal linkage assembly.

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493. The apparatus of claim 476, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.

494. The apparatus of claim 476, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.
- 5 495. The apparatus of claim 476, wherein the variable stride system is coupled to the pivotal linkage assembly such that a force from a majority of the weight of the user is applied to the variable stride system.
496. The apparatus of claim 476, wherein the apparatus is configured such that  
10 articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
497. The apparatus of claim 476, further comprising a movable member directly attached to the crank system.
- 15 498. The apparatus of claim 476, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
499. A variable stride exercise apparatus, comprising:  
20 a frame;  
a crank system coupled to the frame;  
a pivotal linkage assembly coupled to the crank system;  
a variable stride system coupled to the pivotal linkage assembly, wherein the variable stride system is configured to allow a user of the apparatus to vary the length of  
25 the user's stride during use of the apparatus;  
wherein the apparatus has a maximum stride length that is at least about 40% of an overall length of the apparatus;  
wherein the apparatus is configured such that a foot of the user can travel in a substantially curvilinear path during use of the apparatus; and  
30 wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

500. The apparatus of claim 499, wherein the apparatus is configured such that the foot of the user can also travel in a closed path during use of the apparatus.
- 5 501. The apparatus of claim 499, wherein the pivotal linkage assembly comprises a foot member, and wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.
- 10 502. The apparatus of claim 499, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
503. The apparatus of claim 499, further comprising a movable member coupled to the  
15 pivotal linkage assembly.
504. The apparatus of claim 499, further comprising a movable member coupled to the crank system.
- 20 505. The apparatus of claim 499, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a reciprocating path.
506. The apparatus of claim 499, further comprising a movable member coupled to the  
25 crank system, wherein the movable member is configured to move in a closed path.
507. The apparatus of claim 499, further comprising a movable member, wherein the movable member is coupled to the pivotal linkage assembly and the crank system.
- 30 508. The apparatus of claim 499, wherein the pivotal linkage assembly is coupled to the crank system through the variable stride system.

509. The apparatus of claim 499, further comprising a movable member, wherein the pivotal linkage assembly is coupled to the movable member through the variable stride system.
- 5
510. The apparatus of claim 499, wherein the pivotal linkage assembly comprises a foot member.
511. The apparatus of claim 499, wherein the pivotal linkage assembly comprises an arm link.
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512. The apparatus of claim 499, wherein the pivotal linkage assembly comprises a movable member.
513. The apparatus of claim 499, wherein the pivotal linkage assembly comprises an arm link, and wherein the arm link is pivotally coupled to the frame.
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514. The apparatus of claim 499, wherein the pivotal linkage assembly comprises a foot member pivotally coupled to an arm link.
- 20
515. The apparatus of claim 499, further comprising a movable member, wherein the pivotal linkage assembly comprises a foot member, and wherein the foot member is coupled to the movable member.
516. The apparatus of claim 499, further comprising a movable member, wherein the pivotal linkage assembly comprises a foot member and an arm link, and wherein the foot member is coupled to the movable member.
- 25
517. The apparatus of claim 499, further comprising a movable member, wherein the pivotal linkage assembly comprises a foot member, and wherein the foot member is coupled to the movable member through the variable stride system.
- 30

518. The apparatus of claim 499, wherein the variable stride system comprises at least one cam device.
- 5 519. The apparatus of claim 499, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
520. The apparatus of claim 499, wherein the variable stride system comprises a  
10 spring.
521. The apparatus of claim 499, wherein the variable stride system comprises a damper.
- 15 522. The apparatus of claim 499, wherein the variable stride system is located at a portion of the pivotal linkage assembly distal from the location of the coupling between the pivotal linkage assembly and the crank system.
523. The apparatus of claim 499, wherein the variable stride system is located at a  
20 portion of the pivotal linkage assembly at or near a location the user's foot interacts with the pivotal linkage assembly.
524. The apparatus of claim 499, wherein the crank system comprises a pulley.
- 25 525. The apparatus of claim 499, wherein the apparatus comprises a left pivotal linkage assembly and a right pivotal linkage assembly, and wherein the left pivotal linkage assembly and the right pivotal linkage assembly are cross coupled so that the left pivotal linkage assembly moves in opposition to the right pivotal linkage assembly.
- 30 526. The apparatus of claim 499, further comprising a telescoping member coupled to the pivotal linkage assembly.

527. The apparatus of claim 499, further comprising a telescoping member having at least one damper coupled to the crank system.
- 5 528. The apparatus of claim 499, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
529. The apparatus of claim 499, wherein the variable stride system is configured to  
10 provide a force that restores the user's foot to a neutral position during use of the apparatus.
530. The apparatus of claim 499, wherein the variable stride system is coupled to the pivotal linkage assembly such that a force from a majority of the weight of the user is  
15 applied to the variable stride system.
531. The apparatus of claim 499, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.  
20
532. The apparatus of claim 499, wherein the crank system is directly attached to the frame.
533. The apparatus of claim 499, wherein the variable stride system is directly attached  
25 to the pivotal linkage assembly.
534. The apparatus of claim 499, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 30 535. A variable stride exercise apparatus, comprising:  
a frame;



a crank system coupled to the frame;  
a foot member coupled to the crank system, wherein the foot member comprises a footpad;

5 a variable stride system coupled to the foot member such that at least a portion of the variable stride system is under at least a portion of the footpad, wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;

wherein the apparatus is configured such that a foot of the user can travel in a substantially curvilinear path during use of the apparatus; and

10 wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

536. The apparatus of claim 535, wherein the apparatus is configured such that the foot of the user can also travel in a closed path during use of the apparatus.

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537. The apparatus of claim 535, wherein the apparatus is configured such that the foot of the user travels in a closed path during use of the apparatus.

538. The apparatus of claim 535, wherein the apparatus is configured such that the foot of the user travels in a substantially curvilinear path during use of the apparatus.

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539. The apparatus of claim 535, wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.

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540. The apparatus of claim 535, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.

30 541. The apparatus of claim 535, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right

foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.

542. The apparatus of claim 535, further comprising a movable member coupled to the  
5 foot member.

543. The apparatus of claim 535, further comprising a movable member coupled to the crank system.

10 544. The apparatus of claim 535, further comprising a movable member coupled to the crank system through a roller.

545. The apparatus of claim 535, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a reciprocating  
15 path.

546. The apparatus of claim 535, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a substantially curvilinear path.  
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547. The apparatus of claim 535, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.

548. The apparatus of claim 535, wherein the foot member is coupled to the crank  
25 system through the variable stride system.

549. The apparatus of claim 535, further comprising a movable member, wherein the foot member is coupled to the movable member through the variable stride system.

30 550. The apparatus of claim 535, further comprising a movable member, wherein the movable member is translatably coupled to the frame.

551. The apparatus of claim 535, further comprising a movable member, wherein the movable member is translatably coupled to the frame through a roller.
- 5 552. The apparatus of claim 535, further comprising an arm link coupled to the foot member.
553. The apparatus of claim 535, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
- 10 554. The apparatus of claim 535, wherein the variable stride system comprises at least one cam device.
555. The apparatus of claim 535, wherein the variable stride system comprises one or  
15 more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
556. The apparatus of claim 535, wherein the variable stride system comprises a  
20 spring.
557. The apparatus of claim 535, wherein the variable stride system comprises a damper.
558. The apparatus of claim 535, wherein the variable stride system comprises a cam  
25 device, and wherein the length of the cam surface of the cam device is greater than a crank diameter of the crank system.
559. The apparatus of claim 535, wherein the variable stride system comprises a cam  
30 device, and wherein the length of the cam surface of the cam device is at least about 1.5 times the length of a crank diameter of the crank system.

560. The apparatus of claim 535, wherein the variable stride system comprises a cam device, and wherein the length of the cam surface of the cam device is at least about 2 times the length of a crank diameter of the crank system.
- 5 561. The apparatus of claim 535, wherein the crank system comprises a pulley.
562. The apparatus of claim 535, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
- 10 563. The apparatus of claim 535, wherein the variable stride system is configured to provide a force that restores the footpad to a neutral position during use of the apparatus.
564. The apparatus of claim 535, wherein the variable stride system is coupled to the  
15 foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
565. The apparatus of claim 535, wherein the apparatus is configured such that  
20 articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
566. The apparatus of claim 535, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 25 567. The apparatus of claim 535, further comprising an adjustment mechanism configured to allow adjustment of the step height of the user.
568. A variable stride exercise apparatus, comprising:  
a frame;  
30 a crank system coupled to the frame, wherein the crank system comprises a crank diameter;

a foot member coupled to the crank system, wherein the foot member comprises a footpad;

5 a variable stride system coupled to the foot member, wherein the variable stride system comprises a cam device having a cam surface, wherein the length of the cam surface is greater than the crank diameter of the crank system, and wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;

wherein the apparatus is configured such that a foot of the user can travel in a substantially curvilinear path during use of the apparatus; and

10 wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

569. The apparatus of claim 568, wherein the apparatus is configured such that the foot of the user can also travel in a closed path during use of the apparatus.

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570. The apparatus of claim 568, wherein the apparatus is configured such that the foot of the user travels in a closed path during use of the apparatus.

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571. The apparatus of claim 568, wherein the apparatus is configured such that the foot of the user travels in a substantially curvilinear path during use of the apparatus.

572. The apparatus of claim 568, wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.

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573. The apparatus of claim 568, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.

574. The apparatus of claim 568, wherein the variable stride system is coupled to the foot member such that at least a portion of the variable stride system is under at least a portion of the footpad.

5 575. The apparatus of claim 568, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.

10 576. The apparatus of claim 568, further comprising a movable member coupled to the foot member.

577. The apparatus of claim 568, further comprising a movable member coupled to the crank system.

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578. The apparatus of claim 568, further comprising a movable member coupled to the crank system through a roller.

579. The apparatus of claim 568, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a reciprocating path.

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580. The apparatus of claim 568, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a substantially curvilinear path.

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581. The apparatus of claim 568, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.

30 582. The apparatus of claim 568, further comprising a movable member, wherein the movable member is translatably coupled to the frame.

583. The apparatus of claim 568, further comprising a movable member, wherein the movable member is translatably coupled to the frame through a roller.
- 5 584. The apparatus of claim 568, wherein the foot member is coupled to the crank system through the variable stride system.
585. The apparatus of claim 568, further comprising a movable member, wherein the foot member is coupled to the movable member through the variable stride system.
- 10 586. The apparatus of claim 568, further comprising an arm link coupled to the foot member.
587. The apparatus of claim 568, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
- 15 588. The apparatus of claim 568, wherein the variable stride system comprises one or more rollers, and wherein at least one of the rollers is configured to translate along the cam surface of the cam device during use.
- 20 589. The apparatus of claim 568, wherein the length of the cam surface of the cam device is at least about 1.5 times the crank diameter of the crank system.
590. The apparatus of claim 568, wherein the length of the cam surface of the cam device is at least about 2 times the crank diameter of the crank system.
- 25 591. The apparatus of claim 568, wherein the crank system comprises a pulley.
592. The apparatus of claim 568, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
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593. The apparatus of claim 568, wherein the variable stride system is configured to provide a force that restores the footpad to a neutral position during use of the apparatus.
- 5 594. The apparatus of claim 568, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
595. The apparatus of claim 568, wherein the apparatus is configured such that  
10 articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
596. The apparatus of claim 568, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 15 597. The apparatus of claim 568, further comprising an adjustment mechanism configured to allow adjustment of the step height of the user.
598. A variable stride exercise apparatus, comprising:  
20 a frame;  
a crank system coupled to the frame;  
a movable member coupled to the crank system, wherein the movable member can travel in a substantially curvilinear path during use of the apparatus;  
a foot member coupled to the movable member, wherein the foot member and the  
25 movable member are configured such that the user of the apparatus can selectively control the path of the foot member;  
wherein the apparatus is configured such that a foot of the user can travel in a substantially curvilinear path during use of the apparatus; and  
wherein the apparatus is configured such that at least a portion of the apparatus  
30 remains substantially stationary during use.



599. The apparatus of claim 598, wherein the movable member travels in a substantially curvilinear path during use of the apparatus.
- 5 600. The apparatus of claim 598, wherein the apparatus is configured such that the foot of the user can also travel in a closed path during use of the apparatus.
601. The apparatus of claim 598, wherein the apparatus is configured such that the foot of the user travels in a closed path during use of the apparatus.
- 10 602. The apparatus of claim 598, wherein the apparatus is configured such that the foot of the user travels in a substantially curvilinear path during use of the apparatus.
603. The apparatus of claim 598, wherein the foot member and the movable member are configured such that the user of the apparatus, by varying the user's stride, can  
15 thereby selectively vary a path of the foot member.
604. The apparatus of claim 598, wherein the foot member and the movable member are configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.  
20
605. The apparatus of claim 598, further comprising a variable stride system coupled between the foot member and the movable member, wherein the foot member comprises a footpad, and wherein the variable stride system is coupled to the foot member such that at least a portion of the variable stride system is under at least a portion of the footpad.  
25
606. The apparatus of claim 598, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.  
30

607. The apparatus of claim 598, further comprising a variable stride system coupled between the foot member and the movable member, wherein the movable member is coupled to the variable stride system through a roller.
- 5 608. The apparatus of claim 598, wherein the movable member is coupled to the foot member and the crank system.
609. The apparatus of claim 598, wherein the movable member is coupled to the crank system through a roller.
- 10 610. The apparatus of claim 598, further comprising a variable stride system coupled between the foot member and the movable member, wherein the foot member is coupled to the crank system through the variable stride system.
- 15 611. The apparatus of claim 598, further comprising a variable stride system coupled between the foot member and the movable member, wherein the foot member is coupled to the movable member through the variable stride system.
- 20 612. The apparatus of claim 598, further comprising an arm link coupled to the foot member.
613. The apparatus of claim 598, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
- 25 614. The apparatus of claim 598, further comprising a variable stride system coupled between the foot member and the movable member, wherein the variable stride system comprises at least one roller, and wherein at least one of the rollers is configured to translate along the cam surface of the cam device during use.
- 30 615. The apparatus of claim 598, further comprising a variable stride system coupled between the foot member and the movable member, wherein the variable stride system

comprises a cam device, and wherein the length of the cam surface of the cam device is greater than a crank diameter of the crank system.

5 616. The apparatus of claim 598, further comprising a variable stride system coupled between the foot member and the movable member, wherein the variable stride system comprises a cam device, and wherein the length of the cam surface of the cam device is at least about 1.5 times a crank diameter of the crank system.

10 617. The apparatus of claim 598, further comprising a variable stride system coupled between the foot member and the movable member, wherein the variable stride system comprises a cam device, and wherein the length of the cam surface of the cam device is at least about 2 times a crank diameter of the crank system.

15 618. The apparatus of claim 598, wherein the crank system comprises a pulley.

619. The apparatus of claim 598, wherein the foot member and the movable member are configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.

20 620. The apparatus of claim 598, further comprising a variable stride system coupled between the foot member and the movable member, wherein the variable stride system is configured to provide a force that restores the footpad to a neutral position during use of the apparatus.

25 621. The apparatus of claim 598, further comprising a variable stride system coupled between the foot member and the movable member, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.

622. The apparatus of claim 598, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.

5 623. The apparatus of claim 598, further comprising a housing, wherein the housing encloses at least a portion of the crank system.

624. The apparatus of claim 598, further comprising an adjustment mechanism configured to allow adjustment of the step height of the user.

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625. A variable stride exercise apparatus, comprising:

a frame;

a crank system coupled to the frame;

a movable member coupled to the crank system;

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a foot member coupled to the movable member using a variable stride system,

wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;

wherein the apparatus is configured such that a foot of the user can travel in a substantially curvilinear path during use of the apparatus; and

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wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

626. The apparatus of claim 625, wherein the apparatus is configured such that the foot of the user can also travel in a closed path during use of the apparatus.

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627. The apparatus of claim 625, wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.

628. The apparatus of claim 625, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
- 5 629. The apparatus of claim 625, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.
- 10 630. The apparatus of claim 625, wherein the foot member is coupled to the movable member through the variable stride system.
631. The apparatus of claim 625, wherein the movable member is configured to move in a reciprocating path.
- 15 632. The apparatus of claim 625, wherein the movable member is configured to move in a closed path.
633. The apparatus of claim 625, further comprising an arm link coupled to the foot member.
- 20 634. The apparatus of claim 625, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
- 25 635. The apparatus of claim 625, wherein the variable stride system comprises at least one cam device.
636. The apparatus of claim 625, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is
- 30 configured to translate along a surface of at least one of the cam devices during use.

637. The apparatus of claim 625, wherein the crank system comprises a pulley.
638. The apparatus of claim 625, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
639. The apparatus of claim 625, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.
640. The apparatus of claim 625, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
641. The apparatus of claim 625, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
642. The apparatus of claim 625, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
643. A variable stride exercise apparatus, comprising:  
a frame;  
a crank system coupled to the frame;  
an arm link coupled to the frame;  
a foot member configured to travel in multiple paths, wherein the foot member is directly attached to the arm link, and wherein the foot member and the arm link are configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member;  
wherein the apparatus is configured such that a foot of the user can travel in a substantially curvilinear path during use of the apparatus; and

wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

5 644. The apparatus of claim 643, wherein the apparatus is configured such that the foot of the user can also travel in a closed path during use of the apparatus.

645. The apparatus of claim 643, wherein the foot member and the arm link are configured such that the user's stride controls the path of the foot member.

10 646. The apparatus of claim 643, wherein the foot member and the arm link are configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path length of the foot member.

15 647. The apparatus of claim 643, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.

20 648. The apparatus of claim 643, further comprising a movable member coupled to the foot member.

649. The apparatus of claim 643, further comprising a movable member coupled to the crank system.

25 650. The apparatus of claim 643, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a reciprocating path.

30 651. The apparatus of claim 643, further comprising a movable member coupled to the crank system, wherein the movable member is configured to move in a closed path.

652. The apparatus of claim 643, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.
- 5 653. The apparatus of claim 643, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the foot member is coupled to the crank system through the variable stride system.
- 10 654. The apparatus of claim 643, further comprising a movable member, and a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the foot member is coupled to the movable member through the variable stride system.
- 15 655. The apparatus of claim 643, wherein the arm link is pivotally coupled to the frame.
656. The apparatus of claim 643, wherein the foot member is pivotally coupled to an arm link.
- 20 657. The apparatus of claim 643, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises at least one cam device.
- 25 658. The apparatus of claim 643, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
- 30 659. The apparatus of claim 643, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the



variable stride system is located at a portion of the pivotal linkage assembly at or near a location the user's foot interacts with the foot member.

660. The apparatus of claim 643, wherein the crank system comprises a pulley.

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661. The apparatus of claim 643, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.

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662. The apparatus of claim 643, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.

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663. The apparatus of claim 643, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.

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664. A variable stride exercise apparatus, comprising:  
a frame;  
a crank system coupled to the frame;  
a movable member coupled to the crank system;  
a foot member coupled to the movable member, wherein the foot member and the movable member are configured such that the user of the apparatus can selectively control the path of the foot member;  
wherein the apparatus is configured such that a foot of the user can travel in a substantially curvilinear path during use of the apparatus; and

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wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

5 665. The apparatus of claim 664, wherein the apparatus is configured such that the foot of the user can also travel in a closed path during use of the apparatus.

666. The apparatus of claim 664, wherein the foot member and the movable member are configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.  
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667. The apparatus of claim 664, wherein the foot member and the movable member are coupled such that the user of the apparatus can selectively control the path of the foot member.

15 668. The apparatus of claim 664, further comprising a second foot member, wherein the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.

20 669. The apparatus of claim 664, wherein the movable member is coupled to the foot member and the crank system.

670. The apparatus of claim 664, wherein the movable member is configured to move in a reciprocating path.  
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671. The apparatus of claim 664, wherein the movable member is configured to move in a closed path.

672. The apparatus of claim 664, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the foot member is coupled to the crank system through the variable stride system.  
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673. The apparatus of claim 664, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the foot member is coupled to the movable member through the variable stride system.

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674. The apparatus of claim 664, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.

675. The apparatus of claim 664, further comprising an arm link pivotally coupled to the foot member.

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676. The apparatus of claim 664, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises at least one cam device.

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677. The apparatus of claim 664, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.

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678. The apparatus of claim 664, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is located at a portion of the pivotal linkage assembly at or near a location the user's foot interacts with the foot member.

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679. The apparatus of claim 664, wherein the crank system comprises a pulley.

680. The apparatus of claim 664, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary

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the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.

5 681. The apparatus of claim 664, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.

10 682. The apparatus of claim 664, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.

15 683. The apparatus of claim 664, wherein the apparatus is configured such that articulation of the user's foot is controlled in combination with the path of the foot member during use of the apparatus.

684. A variable stride exercise apparatus, comprising:  
a frame;  
20 a crank system coupled to the frame;  
a pivotal linkage assembly coupled to the crank system;  
a variable stride system coupled to the pivotal linkage assembly, wherein the variable stride system is configured to allow a user of the apparatus to vary the length of the user's stride during use of the apparatus;  
25 wherein the apparatus has a maximum stride length that is at least about 40% of an overall length of the apparatus;  
wherein the apparatus is configured such that a foot of the user can travel in a substantially linear path during use of the apparatus; and  
wherein the apparatus is configured such that at least a portion of the apparatus  
30 remains substantially stationary during use.

685. The apparatus of claim 684, wherein the apparatus is configured such that the foot of the user can also travel in a closed path during use of the apparatus.
- 5 686. The apparatus of claim 684, wherein the pivotal linkage assembly comprises a foot member, and wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.
- 10 687. The apparatus of claim 684, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
- 15 688. The apparatus of claim 684, further comprising a movable member coupled to the pivotal linkage assembly.
689. The apparatus of claim 684, further comprising a movable member coupled to the crank system.
- 20 690. The apparatus of claim 684, further comprising a movable member, wherein the movable member is coupled to the pivotal linkage assembly and the crank system.
691. The apparatus of claim 684, wherein the pivotal linkage assembly is coupled to the crank system through the variable stride system.
- 25 692. The apparatus of claim 684, further comprising a movable member, wherein the pivotal linkage assembly is coupled to the movable member through the variable stride system.
- 30 693. The apparatus of claim 684, wherein the pivotal linkage assembly comprises a foot member.

694. The apparatus of claim 684, wherein the pivotal linkage assembly comprises an arm link.
695. The apparatus of claim 684, wherein the pivotal linkage assembly comprises an arm link, and wherein the arm link is pivotally coupled to the frame.
696. The apparatus of claim 684, wherein the pivotal linkage assembly comprises a foot member pivotally coupled to an arm link.
697. The apparatus of claim 684, further comprising a movable member, wherein the pivotal linkage assembly comprises a foot member, and wherein the foot member is coupled to the movable member.
698. The apparatus of claim 684, further comprising a movable member, wherein the pivotal linkage assembly comprises a foot member and an arm link, and wherein the foot member is coupled to the movable member.
699. The apparatus of claim 684, further comprising a movable member, wherein the pivotal linkage assembly comprises a foot member, and wherein the foot member is coupled to the movable member through the variable stride system.
700. The apparatus of claim 684, wherein the variable stride system comprises at least one cam device.
701. The apparatus of claim 684, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
702. The apparatus of claim 684, wherein the variable stride system is located at a portion of the pivotal linkage assembly distal from the location of the coupling between the pivotal linkage assembly and the crank system.

- 5 703. The apparatus of claim 684, wherein the variable stride system is located at a portion of the pivotal linkage assembly at or near a location the user's foot interacts with the pivotal linkage assembly.
704. The apparatus of claim 684, wherein the crank system comprises a pulley.
- 10 705. The apparatus of claim 684, wherein the apparatus comprises a left pivotal linkage assembly and a right pivotal linkage assembly, and wherein the left pivotal linkage assembly and the right pivotal linkage assembly are cross coupled so that the left pivotal linkage assembly moves in opposition to the right pivotal linkage assembly.
- 15 706. The apparatus of claim 684, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
- 20 707. The apparatus of claim 684, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.
708. The apparatus of claim 684, wherein the variable stride system is coupled to the pivotal linkage assembly such that a force from a majority of the weight of the user is applied to the variable stride system.
- 25 709. The apparatus of claim 684, wherein the crank system is directly attached to the frame.
710. The apparatus of claim 684, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 30 711. A variable stride exercise apparatus, comprising:

a frame;  
a crank system coupled to the frame;  
a foot member coupled to the crank system, wherein the foot member comprises a  
footpad;

5        a variable stride system coupled to the foot member such that at least a portion of  
the variable stride system is under at least a portion of the footpad, wherein the variable  
stride system is configured to allow a user of the apparatus to vary the length of the user's  
stride during use of the apparatus;

10        wherein the apparatus is configured such that a foot of the user can travel in a  
substantially linear path during use of the apparatus; and

      wherein the apparatus is configured such that at least a portion of the apparatus  
remains substantially stationary during use.

712.    The apparatus of claim 711, wherein the apparatus is configured such that the foot  
15    of the user can also travel in a closed path during use of the apparatus.

713.    The apparatus of claim 711, wherein the variable stride system is configured such  
that the user of the apparatus, by varying the user's stride, can thereby selectively vary a  
path of the foot member.

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714.    The apparatus of claim 711, wherein the variable stride system is configured to  
allow the user of the apparatus to instantaneously vary the length of the user's stride  
during use of the apparatus.

25    715.    The apparatus of claim 711, further comprising a second foot member, wherein  
the foot member and the second foot member comprise a left foot member and a right  
foot member, and wherein the left foot member and the right foot member are cross  
coupled so that the left foot member moves in opposition to the right foot member.

30    716.    The apparatus of claim 711, further comprising a movable member coupled to the  
foot member.



717. The apparatus of claim 711, further comprising a movable member coupled to the crank system.
- 5 718. The apparatus of claim 711, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.
719. The apparatus of claim 711, wherein the foot member is coupled to the crank system through the variable stride system.
- 10 720. The apparatus of claim 711, further comprising a movable member, wherein the foot member is coupled to the movable member through the variable stride system.
721. The apparatus of claim 711, further comprising an arm link coupled to the foot member.
- 15 722. The apparatus of claim 711, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
- 20 723. The apparatus of claim 711, wherein the variable stride system comprises at least one cam device.
724. The apparatus of claim 711, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is
- 25 configured to translate along a surface of at least one of the cam devices during use.
725. The apparatus of claim 711, wherein the crank system comprises a pulley.
726. The apparatus of claim 711, wherein the variable stride system is configured to
- 30 allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.

727. The apparatus of claim 711, wherein the variable stride system is configured to provide a force that restores the footpad to a neutral position during use of the apparatus.
- 5 728. The apparatus of claim 711, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
729. The apparatus of claim 711, wherein the apparatus is configured such that  
10 articulation of the user's foot is controlled in combination with the user's stride length during use of the apparatus.
730. The apparatus of claim 711, further comprising a housing, wherein the housing encloses at least a portion of the crank system.
- 15 731. A variable stride exercise apparatus, comprising:  
a frame;  
a crank system coupled to the frame;  
an arm link coupled to the frame;  
20 a foot member configured to travel in multiple paths, wherein the foot member is directly attached to the arm link, and wherein the foot member and the arm link are configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member;  
wherein the apparatus is configured such that a foot of the user can travel in a  
25 substantially linear path during use of the apparatus; and  
wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.
732. The apparatus of claim 731, wherein the apparatus is configured such that the foot  
30 of the user can also travel in a closed path during use of the apparatus.

733. The apparatus of claim 731, wherein the variable stride system is configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path of the foot member.
- 5 734. The apparatus of claim 731, wherein the variable stride system is configured to allow the user of the apparatus to instantaneously vary the length of the user's stride during use of the apparatus.
735. The apparatus of claim 731, further comprising a second foot member, wherein  
10 the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.
736. The apparatus of claim 731, further comprising a movable member coupled to the  
15 foot member.
737. The apparatus of claim 731, further comprising a movable member coupled to the crank system.
- 20 738. The apparatus of claim 731, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.
739. The apparatus of claim 731, wherein the foot member is coupled to the crank  
25 system through the variable stride system.
740. The apparatus of claim 731, further comprising a movable member, wherein the foot member is coupled to the movable member through the variable stride system.
741. The apparatus of claim 731, further comprising an arm link coupled to the foot  
30 member.

742. The apparatus of claim 731, further comprising an arm link coupled to the foot member, wherein the arm link is pivotally coupled to the frame.
743. The apparatus of claim 731, wherein the variable stride system comprises at least one cam device.
744. The apparatus of claim 731, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.
745. The apparatus of claim 731, further comprising a movable member, wherein the movable member is translatably coupled to the frame.
746. The apparatus of claim 731, wherein the crank system comprises a pulley.
747. The apparatus of claim 731, wherein the variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.
748. The apparatus of claim 731, wherein the variable stride system is configured to provide a force that restores the footpad to a neutral position during use of the apparatus.
749. The apparatus of claim 731, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.
750. A variable stride exercise apparatus, comprising:  
a frame;  
a crank system coupled to the frame;  
a movable member coupled to the crank system;

a foot member coupled to the movable member, wherein the foot member and the movable member are configured such that the user of the apparatus can selectively control the path of the foot member;

5 wherein the apparatus is configured such that a foot of the user can travel in a substantially linear path during use of the apparatus; and

wherein the apparatus is configured such that at least a portion of the apparatus remains substantially stationary during use.

751. The apparatus of claim 750, wherein the apparatus is configured such that the foot  
10 of the user can also travel in a closed path during use of the apparatus.

752. The apparatus of claim 750, wherein the foot member and the arm link are configured such that the user's stride controls the path of the foot member.

15 753. The apparatus of claim 750, wherein the foot member and the arm link are configured such that the user of the apparatus, by varying the user's stride, can thereby selectively vary a path length of the foot member.

754. The apparatus of claim 750, further comprising a second foot member, wherein  
20 the foot member and the second foot member comprise a left foot member and a right foot member, and wherein the left foot member and the right foot member are cross coupled so that the left foot member moves in opposition to the right foot member.

755. The apparatus of claim 750, further comprising a movable member coupled to the  
25 foot member.

756. The apparatus of claim 750, further comprising a movable member coupled to the crank system.

30 757. The apparatus of claim 750, further comprising a movable member, wherein the movable member is coupled to the foot member and the crank system.

758. The apparatus of claim 750, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the foot member is coupled to the crank system through the variable stride system.

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759. The apparatus of claim 750, further comprising a movable member, and a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the foot member is coupled to the movable member through the variable stride system.

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760. The apparatus of claim 750, wherein the arm link is pivotally coupled to the frame.

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761. The apparatus of claim 750, wherein the foot member is pivotally coupled to an arm link.

762. The apparatus of claim 750, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises at least one cam device.

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763. The apparatus of claim 750, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system comprises one or more cam devices and one or more rollers, and wherein at least one of the rollers is configured to translate along a surface of at least one of the cam devices during use.

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764. The apparatus of claim 750, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the variable stride system is located at a portion of the pivotal linkage assembly at or near a location the user's foot interacts with the foot member.

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765. The apparatus of claim 750, wherein the crank system comprises a pulley.

766. The apparatus of claim 750, further comprising a variable stride system coupled to the foot member to allow the user to selectively control stride length, wherein the  
5 variable stride system is configured to allow the user of the apparatus to selectively vary the user's stride length based on an amount of force applied by the user's foot during use of the apparatus.

767. The apparatus of claim 750, further comprising a variable stride system coupled  
10 to the foot member to allow the user to selectively control stride length, wherein the variable stride system is configured to provide a force that restores the user's foot to a neutral position during use of the apparatus.

768. The apparatus of claim 750, further comprising a variable stride system coupled  
15 to the foot member to allow the user to selectively control stride length, wherein the variable stride system is coupled to the foot member such that a force from a majority of the weight of the user is applied to the variable stride system.

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